

10/552341 07 MAR 2006

10/552341

PTO/SB/92 (09-04)

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Application No. (if known): 10/522341

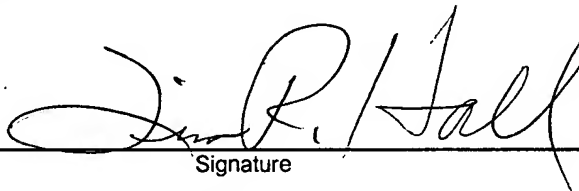
Attorney Docket No.: 12810-00057-US

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Containing Nucleotide and/or Amino Acid Sequence Disclosures (9 pages)
Copy of Notification to Comply With Requirements for Patent Applications Containing
Nucleotide and/or Amino Acid Sequence Disclosures (12 pages)
Statement to Support Filing and Submission of Substitute Sequence Listing in Accordance
with 37 CFR §§1.821 through 1.825 (2 pages)
Replacement Nucleotide and/or Amino Acid Sequence Submission on CD (COPY 1
REPLACEMENT 03/03/2006, COPY 2 REPLACEMENT 03/03/2006, CRF COPY
REPLACEMENT 03/03/2006, 3 total discs)

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U.S. APPLICATION NUMBER NO.	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
10/522,341	Michael Kock	532622010400

INTERNATIONAL APPLICATION NO.	
PCT/EP03/07877	
I.A. FILING DATE	PRIORITY DATE
07/18/2003	07/26/2002

23416
 CONNOLLY BOVE LODGE & HUTZ, LLP
 P O BOX 2207
 WILMINGTON, DE 19899

CONFIRMATION NO. 5941

371 FORMALITIES LETTER



OC000000017724246

Date Mailed: 01/03/2006

NOTIFICATION TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE AND/OR AMINO ACID SEQUENCE DISCLOSURES

Applicant is given **TWO MONTHS FROM THE DATE OF THIS NOTICE** within which to file the items indicated below to avoid abandonment. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

- A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 CFR 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing." Applicant must provide a substitute computer readable form (CRF) copy of the "Sequence Listing" and a statement that the content of the sequence listing information recorded in computer readable form is identical to the written (on paper or compact disc) sequence listing and, where applicable, includes no new matter, as required by 37 CFR 1.821(e), 1.821(f), 1.821(g), 1.825(b), or 1.825(d).

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

For questions regarding compliance to 37 CFR 1.821-1.825 requirements, please contact:

- For Rules Interpretation, call (571) 272-0951
- For Patent Software Program Help, call Patent EBC at 1-866-217-9197 or directly at 703-305-3028 / 703-308-6845 between the hours of 6 a.m. and 12 midnight, Monday through Friday, EST.
- Send e-mail correspondence for Patent Software Program Help @ ebc@uspto.gov

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

*A copy of this notice **MUST** be returned with the response.*

WINSTON M ALVARADO

Telephone: (703) 308-9140 EXT 206

PART 1 - ATTORNEY/APPLICANT COPY

U.S. APPLICATION NUMBER NO.	INTERNATIONAL APPLICATION NO.	ATTY. DOCKET NO.
10/522,341	PCT/EP03/07877	532622010400

FORM PCT/DO/EO/922 (371 Formalities Notice)

STIC Biotechnology Systems Branch

RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 10/522,341
Source: PCT
Date Processed by STIC: 2-17-05

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 4.2.2 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail. Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom. Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<http://www.uspto.gov/ebc/efs/downloads/documents.htm>) , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 01/14/05): U.S. Patent and Trademark Office, Mail Stop Sequence, Customer Window, Randolph Building, 401 Dulany Street, Alexandria, VA 22314

Revised 01/24/05

Hand mail this report with the notification of missing parts.

Alison Alvord
National Stage Processing
Patent Specialist
(703) 305-8421



PCT

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/522,341

DATE: 02/17/2005

TIME: 12:04:43

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Output Set: N:\CRF4\02172005\J522341.raw

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 3 Frank, Markus
 4 Badur, Ralf
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 8 <130> FILE REFERENCE: 532622010400
 C > 10 <140> CURRENT APPLICATION NUMBER: US/10/522,341
 C > 11 <141> CURRENT FILING DATE: 2005-01-25
 13 <160> NUMBER OF SEQ ID NOS: 71
 15 <170> SOFTWARE: PatentIn Ver. 2.1

SCORED SEQUENCES

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 351 <211> LENGTH: 427
 352 <212> TYPE: PRT
 353 <213> ORGANISM: Artificial sequence
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 355 cytosine deaminase (codA)
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 362 20 25 30
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 365 35 40 45
 367 Ala Glu Gln Gly Leu Val Ile Pro Pro Phe Val Glu Pro His Ile His
 368 50 55 60
 370 Leu Asp Thr Thr Gln Thr Ala Gly Gln Pro Asn Trp Asn Gln Ser Gly
 371 65 70 75 80
 373 Thr Leu Phe Glu Gly Ile Glu Arg Trp Ala Glu Arg Lys Ala Leu Leu
 374 85 90 95
 376 Thr His Asp Asp Val Lys Gln Arg Ala Trp Gln Thr Leu Lys Trp Gln
 377 100 105 110
 379 Ile Ala Asn Gly Ile Gln His Val Arg Thr His Val Asp Val Ser Asp
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 383 130 135 140
 385 Ala Pro Trp Ile Asp Leu Gln Ile Val Ala Phe Pro Gln Glu Gly Ile
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 389 165 170 175

(pg. 4, 6) ←

FYI:

plis insert

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<221>, <222>

OK <223>
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RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/522,341

DATE: 02/17/2005

TIME: 12:04:43

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Output Set: N:\CRF4\02172005\J522341.raw

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395                195                200                205
397 Asp Arg Leu Ile Asp Val His Cys Asp Glu Ile Asp Asp Glu Gln Ser
398                210                215                220
400 Arg Phe Val Glu Thr Val Ala Ala Leu Ala His His Glu Gly Met Gly
401 225                230                235                240
403 Ala Arg Val Thr Ala Ser His Thr Thr Ala Met His Ser Tyr Asn Gly
404                245                250                255
406 Ala Tyr Thr Ser Arg Leu Phe Arg Leu Leu Lys Met Ser Gly Ile Asn
407                260                265                270
409 Phe Val Ala Asn Pro Leu Val Asn Ile His Leu Gln Gly Arg Phe Asp
410                275                280                285
412 Thr Tyr Pro Lys Arg Arg Gly Ile Thr Arg Val Lys Glu Met Leu Glu
413                290                295                300
415 Ser Gly Ile Asn Val Cys Phe Gly His Asp Asp Val Phe Asp Pro Trp
416 305                310                315                320
418 Tyr Pro Leu Gly Thr Ala Asn Met Leu Gln Val Leu His Met Gly Leu
419                325                330                335
421 His Val Cys Gln Leu Met Gly Tyr Gly Gln Ile Asn Asp Gly Leu Asn
422                340                345                350
424 Leu Ile Thr His His Ser Ala Arg Thr Leu Asn Leu Gln Asp Tyr Gly
425                355                360                365
427 Ile Ala Ala Gly Asn Ser Ala Asn Leu Ile Ile Leu Pro Ala Glu Asn
428                370                375                380
430 Gly Phe Asp Ala Leu Arg Arg Gln Val Pro Val Arg Tyr Ser Val Arg
431 385                390                395                400
433 Gly Gly Lys Val Ile Ala Ser Thr Gln Pro Ala Gln Thr Thr Val Tyr
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4804 oligonucleotide primer

4806 <400> SEQUENCE: 50

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/522,341

DATE: 02/17/2005

TIME: 12:04:44

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4850 <400> SEQUENCE: 53

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5508 <212> TYPE: DNA

5509 <213> ORGANISM: Zea mays

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5511 <221> NAME/KEY: CDS

5512 <222> LOCATION: (1)..(981)

5513 <223> OTHER INFORMATION: coding for 5-methylthioribose kinase

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5518 1 5 10 15

5520 cag tca gcc tca gcc atg gcc gcg gag gag gag cag ggc ttc cgc ccg 96

5521 Gln Ser Ala Ser Ala Met Ala Ala Glu Glu Glu Gln Gly Phe Arg Pro

5522 20 25 30

5524 ctg gac gag tcg tcc ctg ctc gcc tac atc aag gcc acg ccg gcg ctc 144

5525 Leu Asp Glu Ser Ser Leu Leu Ala Tyr Ile Lys Ala Thr Pro Ala Leu

5526 35 40 45

5528 gcc tcc cgc ctc ggc ggc ggt ggc agt cta gac tcc atc gag atc aag 192

5529 Ala Ser Arg Leu Gly Gly Gly Gly Ser Leu Asp Ser Ile Glu Ile Lys

5530 50 55 60

5532 gag gtc ggc gac ggc aac ctc aac ttc gtc tac atc gtg cag tcc gag 240

5533 Glu Val Gly Asp Gly Asn Leu Asn Phe Val Tyr Ile Val Gln Ser Glu

5534 65 70 75 80

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5537 Ala Gly Ala Ile Val Val Lys Gln Ala Leu Pro Tyr Val Arg Cys Val

5538 85 90 95

5540 ggg gat tcg tgg ccc atg acg cgg gag cgc gcc tac ttc gag gcc tcc 336

5541 Gly Asp Ser Trp Pro Met Thr Arg Glu Arg Ala Tyr Phe Glu Ala Ser

5542 100 105 110

5544 acg ctg cgg gag cac ggc cgc ctg tgc ccg gag cac acc ccc gag gtg 384

5545 Thr Leu Arg Glu His Gly Arg Leu Cys Pro Glu His Thr Pro Glu Val

5546 115 120 125

5548 tac cac ttc gac cgg acc ttg tcg ctg atg ggg atg cgc tac atc gag 432

5549 Tyr His Phe Asp Arg Thr Leu Ser Leu Met Gly Met Arg Tyr Ile Glu

5550 130 135 140

5552 ccc ccg cac atc atc ctc cgc aag ggc ctc gtc gcc ggt gtc gag tac 480

5553 Pro Pro His Ile Ile Leu Arg Lys Gly Leu Val Ala Gly Val Glu Tyr

5554 145 150 155 160

20

See
PJ-2
For error
explanation

20

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/522,341

DATE: 02/17/2005

TIME: 12:04:44

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Output Set: N:\CRF4\02172005\J522341.raw

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5562 180 185 190
5564 gct aag tac tct gcg aac gtg gag atg tgt agg ctc acg gag caa gtt 624
5565 Ala Lys Tyr Ser Ala Asn Val Glu Met Cys Arg Leu Thr Glu Gln Val
5566 195 200 205
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5570 210 215 220
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5573 Pro Tyr Leu Asp Lys Asp Ala Glu Ala Val Arg Glu Asp Asp Glu Leu
5574 225 230 235 240
5576 aag ttg gaa gta gct ggg ctg aaa tcg atg ttt atc gag aga gct caa 768
5577 Lys Leu Glu Val Ala Gly Leu Lys Ser Met Phe Ile Glu Arg Ala Gln
5578 245 250 255
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5582 260 265 270
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5586 275 280 285
5588 ggg ttt gat att ggg agc ctt cct tgg aaa cct gat ttt ggg cat act 912
5589 Gly Phe Asp Ile Gly Ser Leu Pro Trp Lys Pro Asp Phe Gly His Thr
5590 290 295 300
5592 atg cac aga atg ggc atg ctg atc aag cga atg atc gta agg ctt aca 960
5593 Met His Arg Met Gly Met Leu Ile Lys Arg Met Ile Val Arg Leu Thr
5594 305 310 315 320
5596 aga atg gat ctt gaa gac aat tgaagagtcg tggaatttgt tccacaaaaa 1011
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325

move to (325) delete

10522,341

Page 5

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ctgcaggcat gcaagcttat cgtcgactac gtaagtttct gtttctacct ttgatataa 4740
tataataatt atcattaatt agtagtaata taatatttca aatattttt tcaaaaataa 4800
agaatgtagt atatagcaat tgcttttctg tagtttataa gtgtgtatat tttaatttat 4860
aacttttcta atatatgacc aaaatttgtt gatgtgcagg tatcaccgga tccatcgaat 4920
tcggtacgct gaaatcacca gtctctctct acaaatctat ctctctctat tttctccata 4980
aataatgtgt gagtagttc ccgataaggg gaatttaggg tttcttatagg gtttcgctca 5040
tgtgttgagc atataagaaa cccttagtat gtatttgat ttgtaaaata cttctatcaa 5100
taaaatttct aattcctaaa accaaaatcc agtactaaaa tccagatctc ctaaagtccc 5160
tatagatctt tgtcgtgaat ataaaccaga cacgagacga ctaaacctgg agcccagacg 5220
ccgttcgaag ctagaagtac cgcttaggca ggaggccgtt agggaaaaga tgctaaggca 5280
gggttggtta cggtgactcc cccgtaggtt tggtttaaat atgatgaagt ggacggaagg 5340
aaggaggaag acaaggaagg ataaggttgc aggcctgtg caaggttaaga agatggaaat 5400
ttgatagagg tacgctacta tacttatact atacgctaag ggaatgcttg tatttatacc 5460
ctataccccc taataacccc ttatcaattt aagaaataat ccgcataagc ccccgcttaa 5520
aaattggtat cagagccatg aataggtcta tgaccaaaac tcaagaggat aaaacctcac 5580
caaaatacga aagagttctt aactctaaag ataaaagatc tttcaagatc aaaactagtt 5640
ccctcacacc ggtgacgggg atcgcgatgg gtac 5674

Pls explain
"N" location.

See error
explanation on
page 7.

↑
The sequence shown exists in the database. Please check the sequence for similar errors.

VARIABLE LOCATION SUMMARY

PATENT APPLICATION: US/10/522,341

DATE: 02/17/2005

TIME: 12:04:45

Input Set : A:\sequence listing.txt

Output Set: N:\CRF4\02172005\J522341.raw

Use of n's or Xaa's (NEW RULES):

Use of n's and/or Xaa's have been detected in the Sequence Listing.

Use of <220> to <223> is MANDATORY if n's or Xaa's are present.in <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.

Seq#:55; N Pos. 5014

Seq#:57; N Pos. 6697

Seq#:59; N Pos. 1026

Error Explanation: 2

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/522,341

DATE: 02/17/2005

TIME: 12:04:45

Input Set : A:\sequence listing.txt

Output Set : N:\CRF4\02172005\J522341.raw

L:10 M:270 C: Current Application Number differs, Replaced Current Application Number
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:228 M:283 W: Missing Blank Line separator, <220> field identifier
L:231 M:283 W: Missing Blank Line separator, <220> field identifier
L:236 M:283 W: Missing Blank Line separator, <220> field identifier
L:354 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:357 M:200 E: Mandatory Header Field missing, <220> Tag not found for SEQ ID#:4
L:443 M:283 W: Missing Blank Line separator, <220> field identifier
L:641 M:283 W: Missing Blank Line separator, <220> field identifier
L:645 M:283 W: Missing Blank Line separator, <400> field identifier
L:866 M:283 W: Missing Blank Line separator, <220> field identifier
L:1092 M:283 W: Missing Blank Line separator, <220> field identifier
L:1199 M:283 W: Missing Blank Line separator, <220> field identifier
L:1384 M:283 W: Missing Blank Line separator, <220> field identifier
L:1568 M:283 W: Missing Blank Line separator, <220> field identifier
L:1713 M:283 W: Missing Blank Line separator, <220> field identifier
L:1802 M:283 W: Missing Blank Line separator, <220> field identifier
L:1891 M:283 W: Missing Blank Line separator, <220> field identifier
L:2014 M:283 W: Missing Blank Line separator, <220> field identifier
L:2260 M:283 W: Missing Blank Line separator, <220> field identifier
L:2606 M:283 W: Missing Blank Line separator, <220> field identifier
L:2834 M:283 W: Missing Blank Line separator, <220> field identifier
L:3185 M:283 W: Missing Blank Line separator, <220> field identifier
L:3413 M:283 W: Missing Blank Line separator, <220> field identifier
L:3642 M:283 W: Missing Blank Line separator, <220> field identifier
L:3754 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:37
L:3847 M:283 W: Missing Blank Line separator, <220> field identifier
L:4039 M:283 W: Missing Blank Line separator, <220> field identifier
L:4225 M:283 W: Missing Blank Line separator, <220> field identifier
L:4411 M:283 W: Missing Blank Line separator, <220> field identifier
L:4597 M:283 W: Missing Blank Line separator, <220> field identifier
L:4782 M:283 W: Missing Blank Line separator, <220> field identifier
L:4802 M:283 W: Missing Blank Line separator, <220> field identifier
L:4807 M:252 E: No. of Seq. differs, <211> LENGTH:Input:27 Found:21 SEQ:50
L:4814 M:283 W: Missing Blank Line separator, <220> field identifier
L:4819 M:252 E: No. of Seq. differs, <211> LENGTH:Input:26 Found:20 SEQ:51
L:4826 M:283 W: Missing Blank Line separator, <220> field identifier
L:4846 M:283 W: Missing Blank Line separator, <220> field identifier
L:4851 M:252 E: No. of Seq. differs, <211> LENGTH:Input:27 Found:20 SEQ:53
L:4857 M:283 W: Missing Blank Line separator, <220> field identifier
L:4869 M:283 W: Missing Blank Line separator, <220> field identifier
L:4957 M:258 W: Mandatory Feature missing, <221> Tag not found for SEQ ID#:55
L:4957 M:258 W: Mandatory Feature missing, <222> Tag not found for SEQ ID#:55
L:4957 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:55 after pos.:4980
L:4975 M:283 W: Missing Blank Line separator, <220> field identifier
L:5087 M:283 W: Missing Blank Line separator, <220> field identifier
L:5203 M:258 W: Mandatory Feature missing, <221> Tag not found for SEQ ID#:57
L:5203 M:258 W: Mandatory Feature missing, <222> Tag not found for SEQ ID#:57

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/522,341

DATE: 02/17/2005

TIME: 12:04:45

Input Set : A:\sequence listing.txt

Output Set: N:\CRF4\02172005\J522341.raw

L:5203 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:57 after pos.:6660
L:5262 M:283 W: Missing Blank Line separator, <220> field identifier
L:5510 M:283 W: Missing Blank Line separator, <220> field identifier
L:5597 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:59 after pos.:1011
L:5597 M:254 E: No. of Bases conflict, LENGTH:Input:325 Counted:1032 SEQ:59
L:5597 M:320 E: (1) Wrong Nucleic Acid Designator, NUMBER OF INVALID KEYS:6
L:5597 M:112 C: (48) String data converted to lower case,
L:5597 M:252 E: No. of Seq. differs, <211> LENGTH:Input:1011 Found:1032 SEQ:59
L:5673 M:283 W: Missing Blank Line separator, <220> field identifier
L:5761 M:283 W: Missing Blank Line separator, <220> field identifier
L:5842 M:283 W: Missing Blank Line separator, <220> field identifier
L:5923 M:283 W: Missing Blank Line separator, <220> field identifier
L:6003 M:283 W: Missing Blank Line separator, <220> field identifier
L:6015 M:283 W: Missing Blank Line separator, <220> field identifier
L:6027 M:283 W: Missing Blank Line separator, <220> field identifier